

## ORIGINAL ARTICLE

## COMPARISON OF CLINICAL FEATURES OF CHRONIC LIVER DISEASE PRODUCED BY CHRONIC VIRAL HEPATITIS

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**Background:** Chronic infection with either Hepatitis B virus (HBV) or Hepatitis C virus (HCV) represents one of the major causes of chronic liver disease (CLD) globally. The objective of this study was to compare clinical features of CLD produced by chronic viral hepatitis B, C, and co-infection.

**Methods:** A cross-sectional study was designed which included 75 patients of chronic HBV, HCV, and co-infection, aged 35 years or above, of either sex. The patients were equally divided into 3 groups.

**Results:** Out of the 75 subjects, 51 (68%) were males and 24 (32%) were females. The mean age was  $44.69 \pm 7.423$  years. The relevant clinical features like fever, anorexia, and vomiting were more marked in chronic HBV group. However, splenomegaly as well as easily and poorly controlled ascites was distributed with same frequency in chronic HCV and co-infection groups. Breathlessness was equally frequent in chronic HBV and HCV groups, while hematemesis and melena were frequent in chronic HBV and co-infection groups. The frequency distribution of jaundice was more marked in co-infection group only. **Conclusion:** The clinical features were not more prevalent in co-infection group. The distribution of some features like breathlessness was same in two groups.

**Keywords:** Liver disease, HBV, HCV, Hepatitis

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## INTRODUCTION

Chronic liver disease (CLD) is an umbrella term used to explain a range of chronic liver conditions. The CLD is a serious disease with considerable morbidity and mortality and is now considered to be one of the most prevalent chronic diseases in the world.<sup>1</sup> Chronic liver disease is reported to be the fifth biggest killer in the UK, preceded only by heart disease, stroke, cancer, and respiratory disease. Along with the top five diseases, it is the only one to continue to increase.<sup>2</sup> The occurrence of CLD is high in old aged population. Morbidity and mortality due to CLD is more severe in people. During recent years, qualitative and quantitative research has suggested that CLD is in fact a systemic disease, and that even people with milder stages of liver disease can experience a wide range of symptoms that have a significant effect upon their quality of life. The symptoms of CLD include pruritis (itching), abdominal distension and limbs oedema and delirium.<sup>3-6</sup> The symptoms like joint pain, abdominal pain, muscle cramps, depression and anxiety, loss of appetite, decreased sexual drive and problems with memory and concentration are also observed in people with even milder forms of liver disease.<sup>7,8</sup>

Chronic infection either by chronic hepatitis B (HBV) or chronic hepatitis C (HCV) demonstrate one of the major causes of CLD worldwide. Chronic HBV and HCV infections represent significant public health problem globally. An estimated 400 million people are HBV carriers worldwide, 75% of whom live in Asia and the Western Pacific. HCV has infected approximately 170 million people globally<sup>10-12</sup> with infection rates ranging from 1.3 to 1.6% in the USA to 15% in Egypt<sup>13</sup>.

Due to the shared modes of transmission, HBV/HCV co-infection is not uncommon in highly endemic areas and in subjects with a high risk of parenteral transmission. The universal prevalence of co-infection is unknown and might be underestimated. Co-infection is mostly found in patients with haemodialysis, organ transplantation and HIV-positive persons. Severe liver injury, higher probability of liver cirrhosis, decompensation, and hepatocellular carcinoma is seen in co-infected patients.<sup>14-19</sup> The objective of this study was to compare clinical features of chronic liver disease produced by chronic viral hepatitis B, C, and co-infection.

## SUBJECTS AND METHODS

A cross-sectional study was designed which was conducted in the Medical Units of Lahore General Hospital, Lahore. Twenty-five patients each of chronic HBV, HCV, and co-infection of either sex, aged 35 years or above were selected. Non-probability-convenience sampling was used for data collection. Data obtained was entered and analyzed in the SPSS-20. Data was analyzed for frequencies and percentages of clinical features.

## RESULTS

In this study, 51 (68.0%) were males and 24 (32.0%) were females. The age of the selected CLD patients was ranged from 35 to 65 years while the Mean $\pm$ SD age was  $44.69 \pm 7.423$ . (Table-1).

In chronic HBV group, 18 (72%) had fever, 10 (40%) had anorexia, 13 (52%) had breathlessness, 22 (88%) had vomiting, 10 (40%) had jaundice, 13 (52%)

had hematemesis, 11 (44%) had melena, 11 (44%) had oedema, 4 (16%) had hepatomegaly, 9 (36%) had splenomegaly, and 13 (52%) had none of these symptoms. Six (24%) patients of this group had easily controlled, and 6 (24%) had poorly controlled ascites.

In chronic HCV group, 17 (68%) patients had fever, 9 (36%) had anorexia, 13 (52%) had breathlessness, 21 (84%) had vomiting, 10 (40%) had jaundice, 8 (32%) had hematemesis, 6 (24%) had melena, 10 (40%) had oedema, 8 (32%) had hepatomegaly, 10 (40%) had splenomegaly, and 12 (48%) had none of these symptoms. Seven (28%) had easily controlled, and 6 (24%) had poorly controlled ascites.

In co-infection group, 12 (48%) had fever, 9 (36%) had anorexia, 12 (48%) had breathlessness, 15 (60%) had vomiting, 13 (52%) had jaundice, hematemesis was present in 13 (52%), melena was present in 11 (44%), oedema was present in 11 (44%), 6 (24%) had hepatomegaly, splenomegaly was present in 10 (40%), and 12 (48%) had none of these symptoms. Seven (28%) had easily controlled, and 6 (24%) had poorly controlled ascites. (Table-2).

**Table-1: Age of patients (Years)**

Type of chronic viral hepatitis	N	Mean±SD
HBV	25	43.04±6.471
HCV	25	50.04±8.279
Co-Infection	25	41.00±3.559
Total	75	44.69±7.423

**Table-2: Frequency distribution of clinical features in types of infection [n (%)]**

Clinical features	Chronic HBV	Chronic HCV	Co-infection
Fever	18 (72)	17 (68)	12 (48)
Anorexia	10 (40)	9 (36)	12 (48)
Breathlessness	13 (52)	13 (52)	12 (48)
Vomiting	22 (88)	21 (84)	15 (60)
Jaundice	10 (40)	10 (40)	13 (52)
Hematemesis	13 (52)	8 (32)	13 (52)
Melena	11 (44)	6 (24)	11 (44)
Edema	11 (44)	10 (40)	11 (44)
Hepatomegaly	4 (16)	8 (32)	6 (24)
Splenomegaly	9 (36)	10 (40)	10 (40)
Ascites			
Absent	13 (52)	12 (48)	12 (48)
Easily Controlled	6 (24)	7 (28)	7 (28)
Poorly Controlled	6 (24)	6 (24)	6 (24)

## DISCUSSION

Chronic liver disease represents a major source of morbidity and mortality worldwide.<sup>20</sup> It is a significant burden on society, because it is one of the three main causes of death in central regions of Africa and Asia. Approximately 70–80% of end stage liver diseases are caused by excessive alcohol use and by viral hepatitis, both of which are potentially preventable. Amongst the viral causes HBV and HCV have the significant and alarming impact on public health.<sup>21</sup> The development of end-stage chronic liver disease as a result of co-infection

is now the leading cause of death in individuals who have been infected with the human immunodeficiency virus (HIV).<sup>22</sup> A little information is available about the proportion of CLD mortality attributable to viral hepatitis.<sup>23</sup>

A research concluded that the most frequent symptoms and signs are anorexia and weight loss (100%), jaundice (90.5%), abdominal disturbances and splenomegaly (75%), bleeding tendencies, decreasing mental function, itching and palmer erythema (<20%). The complications were ascites (97.3%), peripheral oedema (73%), recurrent infections (43.2), hepatic encephalopathy (28%), GIT bleeding (4.1%), and hepatocellular carcinoma (1.4%). Some of the above mentioned clinical features may occur with or without cirrhosis. The absence of any feature does not rule out cirrhosis.<sup>24</sup> Bukhtiari *et al*<sup>25</sup> studied that ascites was present in significantly high number in co-infection patients, whereas hepatomegaly was a significant feature of HBV and HCV infections. The relevant clinical features were more marked in co-infection patients as compared to patients with single virus infection.<sup>25</sup> In this study, the relevant clinical features like fever, anorexia and vomiting were more marked in chronic HBV group. However, splenomegaly and easily and poorly controlled ascites was distributed with same frequency in chronic HCV and co-infection groups. Breathlessness was equally frequent in chronic HBV and HCV groups, while, hematemesis and melena were frequent in chronic HBV and co-infection groups. The frequency distribution of jaundice was more marked in co-infection group only.

## CONCLUSION

Clinical features were not prevalent in co-infection group. The distribution of some features like breathlessness was same in two groups.

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